QA:N/A

RA EIS Shared Use Alternative

Summary of AGEISS Team Interview Findings

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1 Purpose

This document summarizes the research conducted to develop the RA EIS Shared Use Alternative. In order to the assess the potential for commercial use of the rail line and develop estimates of shared use operations, the AGEISS Team reviewed other relevant reports and conducted interviews with potential freight shippers. Through this process, the AGEISS Team determined that there does appear to be sufficient commercial demand for use of the rail line if shared use were allowed. The AGEISS Team then estimated the likely frequency and length of commercial train operations used under the Shared Use Alternative, as well as the location of any necessary commercial access rail sidings.

The remainder of this document is organized in three sections. Section 2 briefly summarizes the other relevant reports. Section 3 presents the findings from interviews with potential shippers. Section 4 summarizes the findings and discusses the implications for the Shared Use Alternative.

2 Review and Summary of Previous Studies

Three previous reports have considered the potential for shared use of the rail line, which are each briefly summarized below.

2.1 BSC Shared Use Report

BSC conducted a study of the potential for shared use of the Nevada Rail Branch Line in 2003.[1] The study focuses primarily on use of the rail line by DOE for shipments of repository construction materials, repository waste disposal containers, and Nevada Test Site low-level radioactive waste – shipments that are not considered "shared use" as the alternative is now defined.

[1] *Possible Nevada Branch Rail Line Shared Use Options and Analysis* (Pre-decisional Study), Prepared for the U.S. DOE, Prepared by Bechtel SAIC Company, LLC, August 2003.

The BSC study did not conduct an analysis of the potential for commercial use of the rail line and did not discuss the issue with the State or any counties. BSC postulated levels of commercial use for operational and design purposes only. BSC postulated that commercial entities would use the rail line, particularly after five years of operation when "new commercial uses would come on line due to agricultural, industrial, power production, and mining interests becoming aware of the potential of the railway for economic movement of materials and goods." Assuming a 20-car train, BSC postulated two commercial train movements per month beginning in 2012, increasing to 12 train movements per month by 2027.

2.2 Nye County Preliminary Transportation Assessment Report (Task 1A Report)

Under a cooperative agreement funded by DOE, Nye County prepared a Preliminary Transportation Assessment (Task 1A Report) released in January 2004.[2] The report identifies companies that could potentially ship commercial freight by rail. Because the report was developed before the selection of the Caliente Corridor as the preferred corridor, it considers each of the potential corridors identified in the Repository EIS. For the Caliente corridor rail line, the report identifies 12 companies that could potentially ship by rail, as well as the tonnage of bulk commodities shipped or received by these companies per year. Commodities identified include grains and oils, propane and fuel oil, asphalt, lime and soda ash, hay, and perlite. Annual shipments of these commodities total just over 100,000 tons. Assuming the average payload of a rail car is 100 tons, this volume of shipments would likely fill 1,000 rail cars annually. The report also identifies whether the company would potentially access the rail line using a rail siding, a transshipment (truck-rail) facility, or both.

In addition to the existing businesses, the report identifies several potential mining operations that would be activated "within one year of approximate rail construction." One of these operations is a potential copper ore mine in Esmeralda County.

2.3 Nye County Rail Transportation Economic Impact Evaluation and Planning Report

Under a cooperative agreement funded by DOE, Nye County commissioned a study of the potential economic benefits of the Nevada Rail facility to the counties of Nye, Esmeralda, and Lincoln.[3] A final report from this study was completed in May 2005. This report presents estimates of commercial freight shipment on the rail line, based on interviews with potential shippers.

The Nye County consultants interviewed businesses located near the proposed rail corridor that are engaged (or plan to be engaged) in shipment of bulk commodities suitable for rail transport. The study focused on customers with the potential to ship at least 1,000 tons per week using the rail line. The report identifies seven such businesses:

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[2] *Preliminary Transportation Assessment*, Cooperative Agreement Task 1A, Prepared for U.S. DOE, Prepared by Nye County Board of Commissioners, Nye County, Nevada, January 2004.

[3] *Rail Transportation Economic Impact Evaluation & Planning*, Final Report, Prepared for Nye County, Prepared by Wilbur Smith Associates in association with URS Corporation and KORVE Engineering, May 10, 2005.

- Natural Pozzolan
- Cind-R-Lite
- US Ecology
- D&H Mining
- Farland Refinery Corp
- Ponderosa Dairy
- Dry Lake Valley Power Plant

The report also identifies the potential for other smaller shippers to use the rail line, particularly businesses located near Caliente, Tonopah, and the Amargosa Valley. Through interviews, the consultants estimated the amount of rail freight that would move to and from these businesses under a Low, Mid-Range, and High demand scenario, shown below. Note that shipments to the potential Dry Lake Valley Power Plant are included only in the High demand estimate and account for 60 percent of the total demand under that scenario.

	Freight Demand Scenario		
	Low	Mid-Range	High
Annual Shipments - tons	659,565	1,029,347	3,478,969
Annual Shipments - rail carloads	6,596	10,294	34,790
Rail service frequency (trains per week)	2	3	7

The report notes that individual businesses would only use the rail line if it reduced their transportation cost compared to shipping by truck. The report concludes that while the demand estimates "do not appear on their own to support a private carrier" (i.e., the construction and operation of a rail line exclusively for commercial use), there is potential for private shipments to cover the cost of the fuel, labor, equipment maintenance, and leasing of a commercial rail operator. Commercial rail service would need to operate with a frequency of at least two trains per week to provide an acceptable level of service.

The report also assesses the potential for passenger rail operations, concluding that intercity commuter rail service would attract virtually no ridership and that tourist rail service would require a heavy subsidy.

The report identifies rail facilities that would be needed to serve the commercial customers (incremental to the facilities that would be constructed for DOE use). Most significantly, the report identifies the need for a 24-mile branch line running from Beatty south to the Amargosa Valley. In addition, eight short spurs or sidings would be needed to provide access to shippers, each less than 1,000 feet long. They would be located at or near Caliente, Panaca, the Warm Springs Summit, Tonopah, the Oasis Valley, and the end of the Beatty Branch line.

3 Interviews with Potential Shippers

The AGEISS Team conducted an independent verification of the information in the Nye County *Rail Transportation Economic Impact Evaluation and Planning Report* (hereafter referred to as

the "Nye County Report") as part of the development of the Shared Use Alternative. This section discusses the findings of that verification.

3.1 Methodology

The AGEISS Team conducted telephone interviews with each of the potential shippers identified in the Nye County Report. In addition, interviews were conducted with others potential shippers identified by the AGEISS Team through discussions with Nye County staff and other stakeholders.

The discussions with potential shippers focused on verifying the following information:

- Shipper interest in shipping/receiving by rail if the rail line were built
- Commodities to be shipped by rail and direction (inbound vs. outbound), and information on the origin and destination of shipments if available
- The annual rail shipment tonnages, as presented in the Nye County study. The low, mid-range, and high freight tonnage estimates from the study were discussed with each shipper, as appropriate

The AGEISS Team also discussed the potential for rail service to reduce freight transportation costs for the businesses. Although it is impossible at this time to accurately predict rates that would be charged to shippers for rail transportation, in general it is reasonable to assume that a shipper would use the rail line as long as two conditions were met:

1. Rail transportation costs (including drayage and transload costs) are lower than the all-trucking option
2. The level of rail service (e.g., frequency, transport time, reliability, damage) is acceptable to the shipper

In addition, the following issues were discussed with each potential shipper:

- Current shipment volumes, mode of freight transportation, and cost
- Factors necessary to achieve predicted rail shipment tonnage estimates (for example, a rise in commodity prices)
- The type of access and infrastructure that would be needed to enable use of the rail
- The distance the shipper would be willing to truck to a rail transload facility

The discussions were held over a two week period in March 2005. Initial contact was made by phone and follow-up discussions scheduled, as necessary.

3.2 Interview Findings

This section presents summaries of each individual business interview.

Farland Refinery Corp.

Farland is currently operating the Eagle Springs oil refinery facility, located approximately 100 miles east of Tonopah, and also has a small terminal in Tonopah where it stores petroleum-related product. The firm confirmed that it would be interested in shipping and receiving by rail if the rail line were built, and that twice weekly rail service would be adequate. Farland verified that incoming product on rail would be crude oil (currently transported by truck from western Canada) and that the outgoing would be refined product.

In terms of incoming shipments, Farland is currently using truck for inbound shipments of approximately 50,000 to 60,000 barrels of crude oil per month. The firm confirmed the range of potential future inbound rail shipments reported in the Nye County Report (166,000 to 332,000 tons per year), which translate into a range of 42,000 to 84,000 barrels of crude oil per month. The firm has the capacity to handle twice the current volume of incoming crude oil, but is limited by freight (truck) costs. Farland expects that its transportation costs would be lower under a rail scenario. In terms of outgoing rail shipments of refined product, Farland confirmed the estimates in the Nye County Report (31,000 to 62,000 tons per year), which reflect products destined for markets outside of Nevada. (Outbound shipments to in-state destinations would continue to move by truck.)

The firm would need a transload facility with some tank storage and loading capability, and would be willing to use a facility located at Tonopah for both incoming and outgoing rail shipments. For the purposes of estimating total potential commercial rail demand, the AGEISS Team estimates that Farland would ship 250,000 tons per year of incoming product and 50,000 tons per year of outgoing product by rail. This corresponds approximately to the mid-range estimates provided in the Nye County Report.

D & H Mining

D & H Mining operates a landscape rock quarry located along the rail alignment in the Beatty Wash Area. The firm confirmed that it would be interested in shipping mainly outgoing product by rail, and that twice weekly rail service would be adequate. Although the firm commented that the rail estimate provided in the Nye County Report for low and high ends of rail shipment is reasonable, it believes that future volumes are underestimated as the relatively cheaper cost of rail could allow larger quantities of product to be shipped.

The firm currently ships 100,000 tons of decorative rock annually by truck, primarily to destinations in Las Vegas and Southern California. The current cost of truck transportation is the limiting factor in the firm's ability to expand shipment volume. If transporting by rail is cheaper and available, the firm would switch from truck and could access any market that needs colored decorative rock. With rail, the firm suggests that its shipments of rock could expand and possibly reach into the millions of tons per year. In addition, D & H plans to begin producing and shipping bottled water in the near future, although does not currently have a bottled water operation. The firm would need a loading area at railhead, and would be prepared to truck up to 40 miles to reach transload facility.

For the purposes of estimating total potential commercial rail demand, the AGEISS Team estimates D & H Mining would ship 150,000 tons of stone and 36,000 tons of bottled water per year.

Natural Pozzolan

Natural Pozzolan is developing a facility to mine pozzolan (a cement additive) along US 93 north of Pioche. The firm confirmed that it would be interested in shipping by rail if a siding were built near Bennett Pass. Rail service would mainly be used for outgoing product, though there is a possibility that in the future, the firm would be interested in receiving incoming shipments by rail. Due to the weight of product, rail transport can be significantly cheaper than truck, even at distances of less than 500 miles.

Natural Pozzolan is not currently shipping product, although the firm expects shipments could reach two million tons per year in the future, 95 percent of which would go by rail. The firm plans to truck product to railheads at Cedar City, Utah and Caliente, Nevada, then ship by rail. Under current plans, shipments would be split about evenly between the two railheads. If rail access were provided closer the pozzolan mine, the firm could ship its entire rail product through this railhead, which would substantially reduce trucking costs.

In terms of infrastructure, the firm would need a siding and an unloading area. If commercial use of the proposed rail line were allowed, the firm expects to build its own silo at the railhead. Ideally, a siding would be located at Bennett Pass, which is eight miles from the firm's plant and is accessible via gravel road.

For the purposes of estimating total potential commercial rail demand, the AGEISS Team estimates Natural Pozzolan would ship 300,000 tons of outgoing product per year using the proposed rail line.

US Ecology

US Ecology operates a hazardous waste treatment and disposal facility along US 95, approximately 14 miles southeast of Beatty. The firm confirmed that it would be interested in receiving products by rail if shared use of the proposed rail line were allowed. The firm emphasized that cost and other factors (such as whether facilities that are sending shipments to US Ecology have rail access) would determine whether or not would it would switch shipments from truck to rail. If rail were used, twice-weekly service would be adequate.

US Ecology currently receives 140,000 tons per year by truck to its facility, mainly from Nevada, Utah, Arizona, California, and some other locations in the Midwest. Shipments consist of waste materials (hazardous, PCB, and non-hazardous). Total shipment volumes are not expected to vary substantially in the coming years. The firm commented that rail transportation could be much more economical than truck; the firm uses rail at its other facilities in Idaho, Washington, and Texas.

US Ecology could not confirm the rail tonnage estimates provided in the Nye County Report and could not provide an estimate of how much of its shipment volume would move by rail if the rail

option were available. In terms of infrastructure, the firm would need a siding off of the mainline, from which the firm would be willing to truck up to approximately 20 miles to its facility.

For the purposes of estimating total potential commercial rail demand, the AGEISS Team estimates US Ecology would receive incoming rail shipments of 70,000 tons per year using the proposed rail line.

Cind-R-Lite Company

Cind-R-Lite operates a cinder block mine along US 95, near the junction with Highway 373. The company confirmed that it would be interested in shipping by rail if the line were built. Rail shipments would mainly be for outgoing product, for which twice weekly rail service would be adequate. The firm commented that the cost of rail is the determining factor as to whether or not would switch from truck to rail.

Cind-R-Lite currently ships 10,000 tons per month (120,000 tons per year) of outgoing product by truck to destinations that include Las Vegas and Riverside County, California. Most product is shipped to destinations within a 200-mile radius. These shipments are unlikely to use the proposed rail line because it would vastly increase transportation distance and time compared to trucking. If rail service offered transportation cost savings, the firm might increase shipments to Riverside County. Cind-R-Lite suggested that, if costs were lower, shipments by rail could range from 36,000 to 60,000 tons per year. In terms of accessing a railhead from its Nye County operation, the firm stated that it would be willing to truck product over a distance of 5 to 10 miles to a transload facility.

For the purposes of estimating total potential commercial rail demand, the AGEISS Team estimates that Cind-R-Lite would ship 36,000 tons per year using the proposed rail line.

IMV Nevada

IMV Nevada is operating a mine and processing facility in the Lathrop Wells/Amargosa Valley area. Its specialty product is sepiolite. The firm expressed interest in shipping/receiving by rail if the rail line were built. Due to the weight of its product and distance of shipments, rail would be substantially cheaper than truck transportation, and would allow the firm to be more competitive. Rail service three times a week would be adequate. IMV was not included in the Nye County Report.

IMV currently ships 35,000 tons of sepiolite per year by truck. Its major market is the construction industry, west of Dallas, Texas. A fifth of product is exported, with shipments taken by truck to the Port of Long Beach. The firm also supplies specialty products to markets elsewhere in the U.S. In terms of incoming shipments, the firm currently receives 400,000 gallons per year of diesel fuel by truck, which potentially could be switched to rail. The firm commented that rail service would allow it to become more competitive, particularly in eastern U.S. markets that currently require long trucking distances. With rail access, the firm suggested that its production volume could increase to 60,000 tons per year, and incoming fuel shipments could reach 1 million gallons per year.

In terms of infrastructure, IMV indicated that it would relocate its processing plant to be close to the railhead. IMV currently hauls sepiolite 15 miles from the mine to its processing facility, and believes it would be cheaper for it to build a new processing facility at the railhead. For the purposes of estimating total potential commercial rail demand, the AGEISS Team estimates that IMV would ship 35,000 tons per year using the proposed rail line.

Wilkin Mining and Trucking

Wilkin Mining operates a concrete batch plant in Caliente and a crushing plant near Panaca. Currently, the firm has no interest in using rail to support operations at either facility. However, there is the potential that the firm would exploit perlite in the Panaca area and ship outgoing product by rail. Markets for perlite would be in North Carolina and Southern California. Rail service three times per week would be adequate to meet the low end demand estimate for perlite. Wilkin Mining was not included in the Nye County Report.

Wilkin estimates that it could ship between 5,000 and 25,000 tons of perlite per year, provided demand is sufficient. The firm would be interested in shipping perlite by rail, particularly if it could load the product onto rail near Panana, which is close to the mine. The firm would require a siding and a storage facility. At Panaca, the firm could put the storage facility on its own property. If a siding at or near Panaca was not an option, the firm would truck the perlite to Caliente (a distance of 15 miles), where access to rail is already an option. At Caliente, the firm would need a storage and reload system there so that the perlite could be stored and ready to load as an order arrives.

For the purposes of estimating total potential commercial rail demand, the AGEISS Team estimates Wilkin Mining would ship 10,000 tons per year using the proposed rail line.

Badger Mining Corporation

Badger Mining operates a facility in the Amargosa Valley (Ash Meadows), where it produces zeolite. Zeolite is used only in specialized application and total demand for the product is relatively small. The firm estimates that less than 50,000 tons of zeolite from all producers is consumed in the U.S. annually. Badger Mining expressed its interest in shipping outgoing product by rail if the rail line were built, though noted that its operation in Amargosa Valley is very small. Weekly service would be adequate to support current shipment volumes. Information on Badger Mining was not included in the Nye County Report.

Badger Mining currently transports all outgoing product by truck, with the Los Angeles basin as the main destination. Some product is shipped overseas through the Port of Long Beach. The firm's market is limited to a 250-mile radius because of the cost of truck transportation. The firm did not provide current shipment volumes. Access to rail would offer significant advantages for bulk shipment, and allow the firm to expand by opening up new markets in the Midwest and East. There may also be other industrial mineral products in the Amargosa Valley area that are of interest to the firm (e.g., industrial silica sand, which is the firm's main line of business); if rail were available, the firm would be willing to explore further opportunities for industrial minerals in this area.

Given the smaller operation at Amargosa Valley, sidings would be adequate, and the firm would be willing to truck product to a railhead within 20 miles. Larger facilities typically prefer to have direct rail access via a spur connecting to a private track or team track. Badger Mining has over 20 terminals in North America that handle bulk shipments and are serviced by rail.

For the purposes of estimating total potential commercial rail demand, the AGEISS Team estimates Badger Mining would ship 5,000 tons per year using the proposed rail line.

Ponderosa Dairy

Ponderosa Dairy operates a dairy in the Amargosa Valley. The firm confirmed that it would be interested in shipping incoming of animal feed by rail if it could reduce transportation costs compared to trucking. In addition to freight rates, Ponderosa noted a concern that it might incur demurrage costs in switching between a main UPRR line and proposed rail line, increasing their total transportation costs. Twice weekly rail service would be adequate.

Ponderosa Dairy's shipments of animal feed are currently brought to Las Vegas by rail and then trucked to the dairy. Specific commodities include: cottonseed, beet pulp, dry distillers grains, soy haul pellets, canola, whole corn (organic), and unground organic wheat. Shipments come primarily from the upper Midwest. In addition, the dairy receives rail shipments of conventional corn (2,000 tons per month) at its Glendale facility (near Las Vegas), where the firm bought a rail spur and constructed a grain storage and processing facility. The firm stated that it would not consider bringing in its conventional corn to the dairy by rail as it has already invested in its Glendale facility.

Ponderosa Dairy suggested that the low-end rail shipment estimate provided in the Nye County Report (40,000 tons per year) could be achieved, provided that rail offered cost savings. However, the AGEISS Team concludes that such rail shipments are not reasonably foreseeable given the distance of the dairy from the proposed rail line, the relatively short distance of the dairy's current truck shipments, and the competitive trucking rates that the dairy currently enjoys. Therefore, for the purposes of estimating total potential commercial rail demand, no Ponderosa Dairy shipments are included.

Intertech Services (Dry Lake Valley Power Plant)

The High freight demand scenario in the Nye County Report assumes construction of a coal-fired power plant in the Dry Lake Valley area of Lincoln County. Such a plant would create major demand for rail freight transportation from Caliente to the Dry Lake Valley – an estimated 20,800 carloads per year, or more than all other commercial freight combined under the High demand scenario.

Intertech Services, a consulting firm, identified in the Nye County Report as the source of information on the potential power plant. Intertech commented that there are currently no coal-fired plants in Lincoln County, although there is demand for power, particularly from the Southern Californian market. The Dry Lake Valley location is attractive because it would be at the convergence of the following resources: the Southwest Intertie Transmission Line that runs

from Idaho through Nevada to Las Vegas (the right-of way has been issued in support of line construction, and projects are being planned to tie into this line), available land (assuming that BLM permits use), groundwater, and rail access. Intertech noted that a variety of locations other than Dry Lake Valley would also offer this combination of resources.

The AGEISS Team has not identified any information that suggests interest in constructing this plant by a utility or third party. The Nevada Public Utilities Commission's list of proposed generation plants does not include any plants in the Dry Lake Valley or other locations near the proposed rail line. For the consideration of cumulative impacts in the Draft RA EIS, it is assumed that no such plant would be constructed. The AGEISS Team concludes that a power plant located in the Dry Lake Valley is not reasonably foreseeable, and as such, no shipments to such a plant are included in estimates of total potential commercial rail demand on the proposed rail line.

4 Summary

The following table summarizes the estimated commercial freight demand on the proposed rail line in terms of tonnage and rail cars. These estimates assume a rail car payload of 100 tons.

		Tonnage		Carloads	
Company	Commodity	Weekly	Annual	Weekly	Annual
D&H Mining	stone	2,885	150,000	29	1,500
D&H Mining	bottled water	692	36,000	7	360
Cind-R-Lite	stone	692	36,000	7	360
Wilkin Mining	perlite	192	10,000	2	100
Natural Pozzolan	pozzolan	5,769	300,000	58	3,000
IMV Nevada	sepiolite	673	35,000	7	350
Badger Mining	zeolite	96	5,000	1	50
Farland Refinery	crude oil	4,808	250,000	48	2,500
Farland Refinery	petrochemicals	962	50,000	10	500
US Ecology	waste	1,346	70,000	13	700
Misc. Other	various	231	12,000	2	120
Total		18,346	954,000	183	9,540

The AGEISS Team concludes that if shared use of the rail line were allowed, there appears to be sufficient demand from private shippers to justify commercial rail service. Total freight demand would be approximately 954,000 tons annually. This is similar to the Mid-Range demand scenario in the Nye County Report.

Total freight demand would be equivalent to 9,540 rail carloads annually or 183 carloads per week. There would be an equal number of returning empty cars on the railroad. Assuming trains would consist of approximately 60 cars, commercial rail service operating three times per week would be sufficient to serve the estimated demand. Thrice weekly service would also meet the needs of the potential shippers interviewed.

Most potential shippers would be willing to truck their product to or from a siding, although the maximum allowable trucking distance varies considerably among the shippers. Possible locations for access sidings include Caliente, Panaca/Bennett Pass area, the Warm Springs Summit area, the Tonopah area, Goldfield, and the Beatty Wash/Oasis Valley area. Some shippers would need to construct storage or loading/unloading facilities at the railhead.

As discussed in Section 2.3, the Nye County Report identified the need to construct a 24-mile branch line running from the Beatty area to a point north of Amargosa Valley. Among the potential shippers identified, four would use this branch line: US Ecology, Cind-R-Lite, IMV Nevada, and Badger Mining. US Ecology has indicated a willingness to truck their incoming shipments from a railhead up to 20 miles away; thus, a siding in the Beatty Wash area could potentially serve US Ecology. Freight demand from the other three shippers totals 76,000 tons annually, less than 10 percent of the total estimated commercial freight demand on the rail line. These shippers might be willing to truck freight to/from a rail siding in the Beatty Wash area or, in the case of IMV, construct a new processing facility near a siding.

The cost of constructing a branch line would be at least several million dollars, and possibly much more. It appears unlikely that private shippers would fund this construction. Given the low potential shipping volume and relatively high cost, the AGEISS Team concludes that development of a branch line toward Amargosa Valley is not reasonably foreseeable if shared use were allowed and that access sidings (in locations noted above) could reasonably accommodate demand potential.